

# MANAGEMENT OF DIGITAL COLLECTIONS WITH WINISIS AND OTHER COMMON TECHNOLOGIES

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*K Rajasekharan, Librarian  
Kerala Institute Of Local Administration  
Mulagunnathu Kavu, Thrissur, Kerala 680 581  
Librariankila@hotmail.com ☎ 0487-2204097*

## **Abstract**

*The paper discusses about some easily manageable information technologies that can be fruitfully utilized by academic libraries in a modern networked environment. The paper points out that librarians should learn to utilize similar technologies, in order become significant partners in the academic activities in their institutions.*

*Creation of a digital library of full text documents by using Unesco's winisis, easy management of audio and video documents in digital form, web enabling of Winisis database using apache server software and Genisisweb, digital library building using Greenstone, creation of database that facilitates easy opening of websites without having the hassles of remembering the difficult website addresses, making available all these digital services through a gateway of local homepage etc are briefly discussed in the paper. The Winisis database described above can be copied into cd-rom for wider distribution by using GenisisCD software.*

*The article provides details of Weblis – a web-based free software for library cataloguing and circulation developed by using CDS/ISIS as back end - available for free download from internet. Web address of the manuals and tools used in the paper are also provided.*

*In short, the paper provides a narrow slit for modern librarians to enter in to the wide world of helpful information technologies that can be used fruitfully in modern libraries.*

## **1 Introduction**

Academic libraries can no longer confine themselves to the traditional print materials alone, if they want to be more comprehensive in their information services. Modern academic libraries need to select, collect, organize, maintain and serve digital documents, in addition to print materials, to emerge themselves as critical partners in the academic activities of their institutions in a world of abundant digital documents. So Librarians of modern libraries need to familiarize, learn and utilize new technologies that would help them in dissemination of information.

The precise purpose of this paper is to familiarize modern librarians with some easily manageable information technologies for managing digital collections using easily available software like Winisis, Greenstone etc.

## **2 Creating a digital library using Winisis**

Winisis - window version of the CDS/ISIS software of Unesco- is an excellent information tool originally developed for creation of cataloguing (bibliographic) database, which is in wide use in many institutions all over the world. The Winisis is a free copyright protected software.

A less known inbuilt feature of the Winisis software can be utilized for creation of digital library. The feature is the inbuilt provision for display of hypertext link in a field in the database. A click on the hypertext link will result in opening the linked document automatically.

That means you can create a database of a digital collection, which displays a hyper link on one field and while clicking on the link in the field, you can open the full text of the document automatically, if you have kept the digital collection in a folder and the path to the documents are provided in the database field correctly. This is made possible by using a command 'link.... ...OPENFILE' in the print format. The resultant program would have the features of a digital library.

### *2.1 How to make the prototype digital library?*

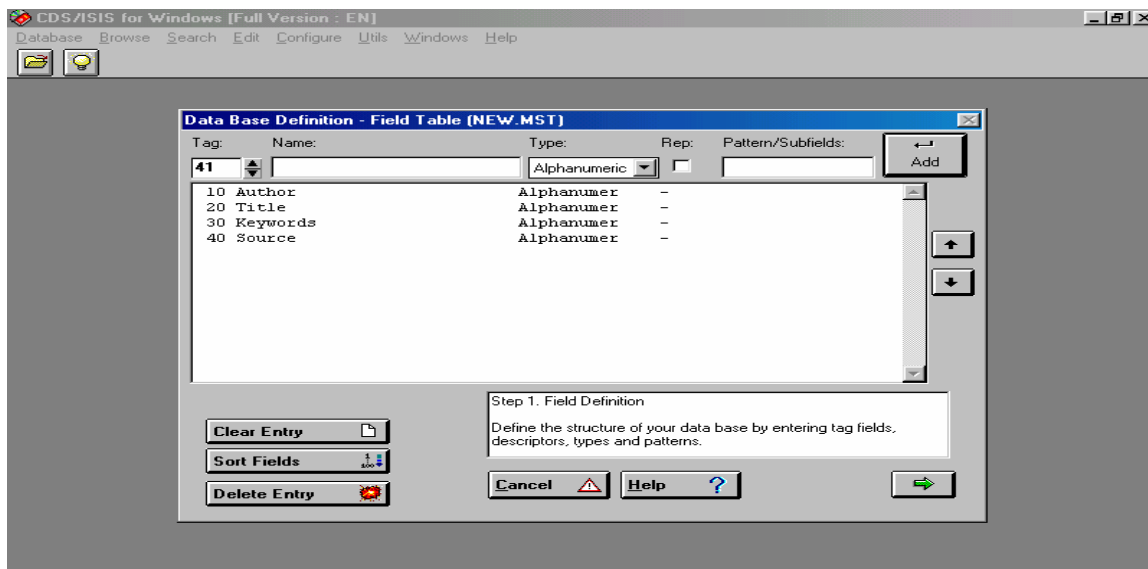
In order to create a sample digital library, you need to have a few full text documents in a specific location in your computer preferably in a folder. Then create a database of the above digital documents in Winisis as given below.

In order to explain the creation of a sample digital library, we may start by creating a database with the following fields.

- 10 Author
- 20 Title
- 30 Keywords
- 40 Source

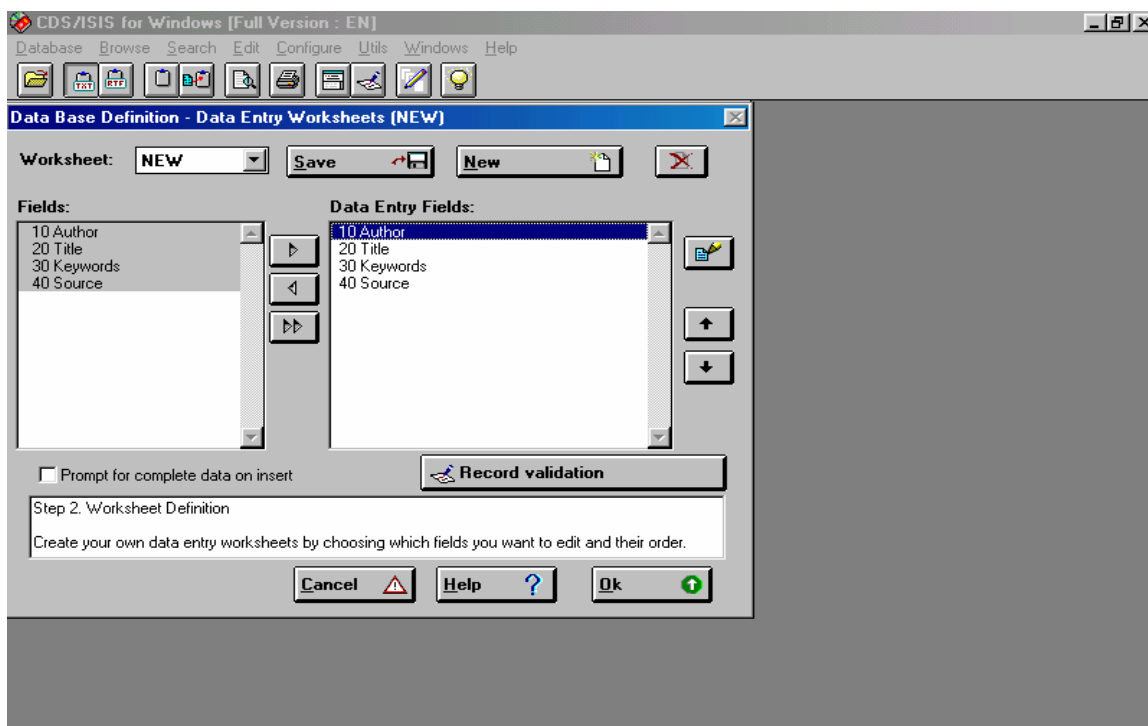
Database creation using Winisis is very easy and automatic. You need to provide the Tag number and field name of your choice as given in figure 1.

**Figure 1 Field Definition Table**



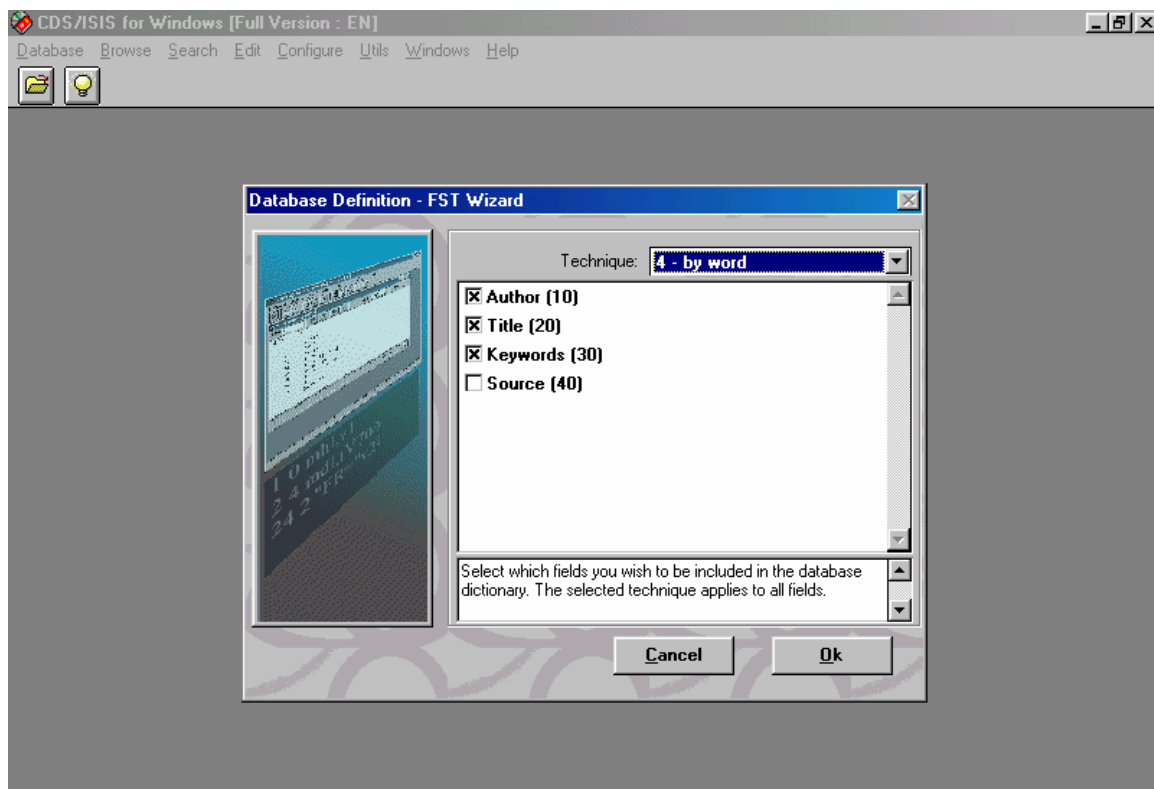
Then choose the fields that need to appear in the data entry worksheet by clicking the appropriate side arrow key as in Figure 2.

**Figure 2 Data Entry Worksheet**



You may then choose the indexing technique in the Field Selection Table as Figure 3.

**Figure 3 Field Selection Table**



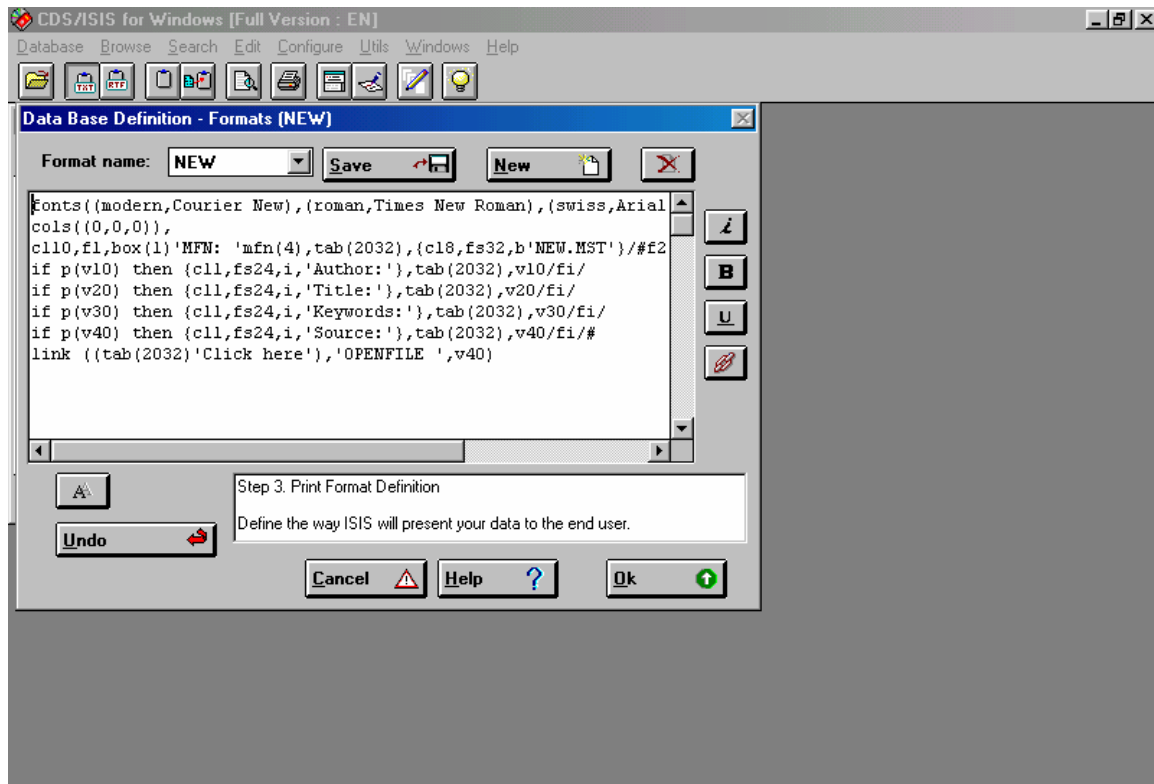
All else for the creation of database will be generated automatically if you select the defaults following the on-screen instructions.

After the creation of database, you may go to the automatically generated print format of the database in the Winisis and add the following formatting line.

**Link ((‘Click here’), ‘OEPNFILE ’, v40)**

The resultant print format would appear as in Figure 4.

**Figure 4 Print Format**



Ensure that there must be a space between the OPENFILE command and the single quote, and the command should be written in upper case as shown above. The command means that, when you click on the 'Display full text' link, the click will automatically result in opening the file denoted in the field v40, in a new window.

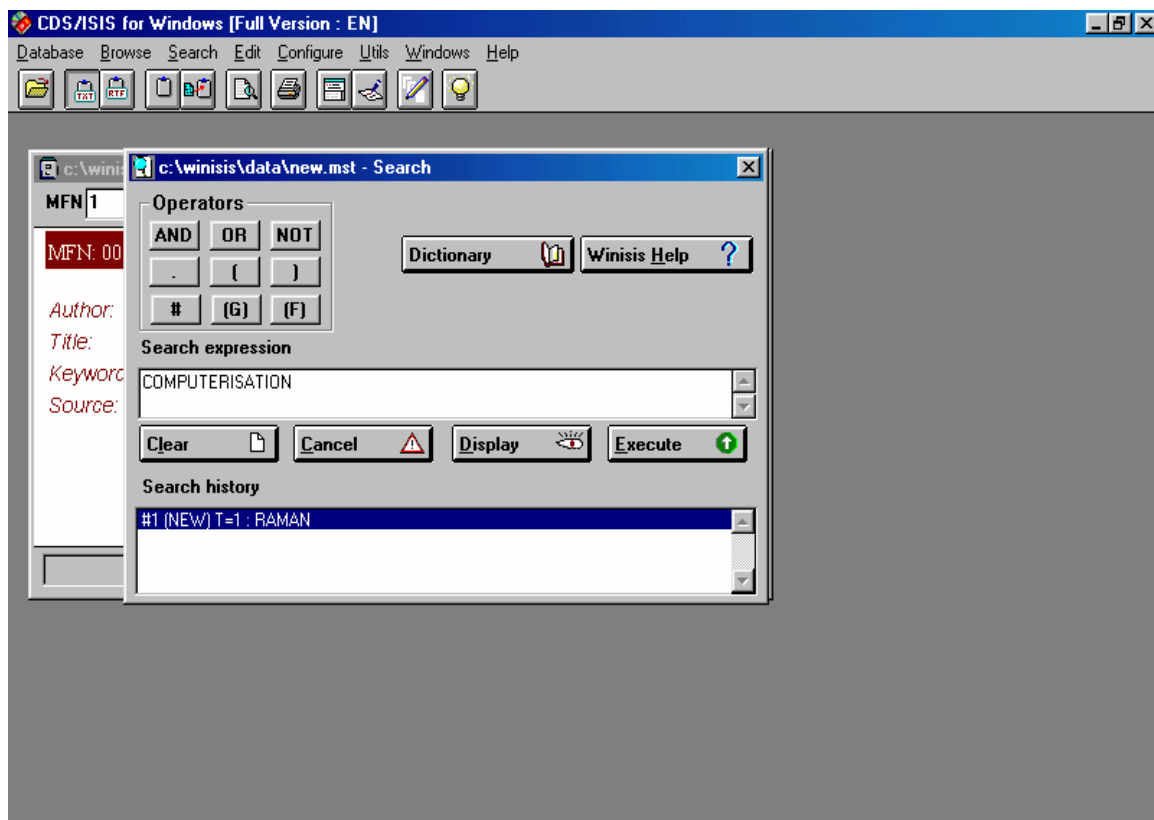
The print format of the above database should be as follows on adding the above-mentioned command: -

```
fonts((modern,Courier New),(roman,Times New Roman),(swiss,Arial)),cols((0,0,0)),
cl10,f1,box(1)'MFN: 'mf(4),tab(2286},{cl18,fs32,b'NEW.MST'}/#f2,cl4,m(2286,-
2286),cl4,fs30,
if p(v10) then {cl1,fs24,i,'Author:'},tab(2286),v10/fi/
if p(v20) then {cl1,fs24,i,'Title:'},tab(2286),v20/fi/
if p(v30) then {cl1,fs24,i,'Keywords:'},tab(2286),v30/fi/
if p(v40) then {cl1,fs24,i,'Sourcefile:'},tab(2286),v40/fi/
link ((tab(2286)'Click here'),'OPENFILE ',v40)
```

In Winisis, the print format would be generated automatically and for creating digital library as above the last line need to be added manually.

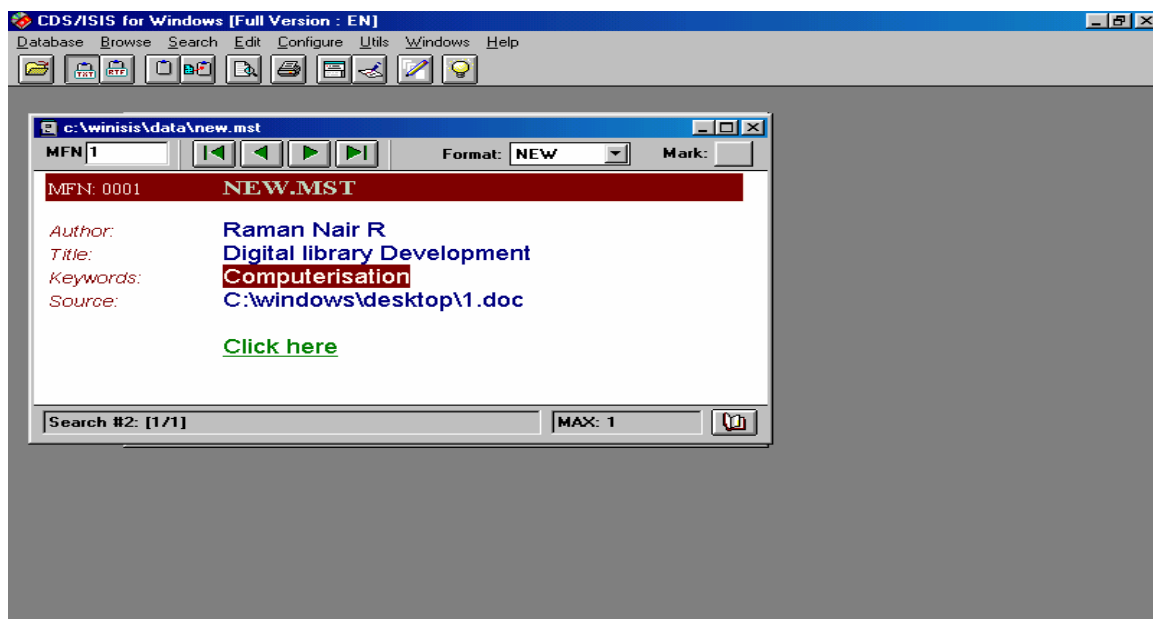
On creation of the database, You need to enter the data of each document in the appropriate fields in the data base, Say for example, enter author in the '10 Author' field, enter title in the '20 Title' filed, enter keywords in '30 Keywords' field, enter the full path of the file name of the full text document included in the folder 'digital collection' in the '40 Source file' field. You can keep the source files anywhere in the computer or in any computer in the network in distributed manner even. But you should clearly show the exact path in the '40 source file' field. You can search the collection by any term in any field already indexed. See the search box in Figure 5.

**Figure 5 Expert Search Form**



On clicking the **Execute** and **Display** buttons you will get the following screen. You can open the full text document in a new window by clicking on the green link '*Click here*' as given in Figure 6.

**Figure 6 Display of Search Result**



## *2.2 Enhancing the quality of the digital library*

The above collection can be made more user-friendly by converting the digital documents into Portable Document Format (pdf) with ‘book marking’ of each document, using *Adobe Acrobat*. Then the collection will become equivalent to a digital library. You can search, open the full text and go to any chapter or page of any document by three or four mouse clicks, and the collection would be friendlier for search than a similar print-document collection in a library.

You will have to use ‘Adobe Acrobat’ that cost you around Rupees five thousand or use any pdf writers bundled with scanners, for converting the documents into portable document format (pdf).

## *2.3 Creating a directory of sites in the World Wide Web using Winisis*

A modern library is imperfect in the absence of having access to the World Wide Web, as many documents are available in digital form available only in the internet. So access to internet should be an essential added requirement for having better access to information in any modern library.

In order to make easy access to internet to the users, you can create a Winisis database containing web URLs of websites and keywords denoting the website, in such a way that the keyword allows you to search and select a site based on keyword and that would link you to the website when your computer is connected to internet.

Alternatively, you can type the URLs of commonly needed website for your clients in an html page / even in a word page and provide links to the appropriate www address, so that the clients can conveniently find the website without having the hassles of remembering or finding out the URL of each site when they want to go to the site.

Newspapers, magazines, free subject journal, open encyclopedia publications, institutional websites, and article-depositories, digital libraries etc. can be listed out in the above web-link page.

The difference between the above two methods is that, the former offers search by keywords whereas the latter offers only a list of links of websites.

## **2.4 Web enabling of Winisis and making it accessible over LAN**

Genesisweb software is a free tool, which allows you to make the Winisis database accessible over your local network in web format. It is a client-server mode program.

In order to make your database web-enabled, you need to install a free sever software *Apache* and then *Genesisweb* in your computer, as detailed out in an easy to do, step-by-step manual '**Web interface for CDS/ISIS' Genesisweb version 3.0.0'** by Deepali Talagala available at <http://www.nsf.ac.lk/purna/genisisman-ver.3.pdf> After installing the Genesisweb you can search the Winisis database with an http address <http://computer-name/wwwisis/database-name.01/form.htm> from any computer node in the local network using internet explorer. The *apache* web server software is available along with the cd-rom containing cds/isis software for windows 1.4 distributed by Unesco.

A sample query page developed using Winisis and Genesisweb looks as appears in Figure 7.



**Figure 7 Search page of Winisis created by Genisisweb**

By using Genisis, the user can use the Winisis database easily. The users need to fill the html form and submit the query, for getting the desired information and need not know about the features of Winisis.

The search result will appear as shown in Figure 8

**Figure 8 Query page of a search result**

<input type="checkbox"/>	Title	Author	Fulltext	<input type="checkbox"/>
<input type="checkbox"/>	Report of the International workshop on population-Poverty-environment linkages: Key results and policy actions.	UNFPA	<a href="#">\\Library\locgov\$\00121.pdf</a>	<input type="checkbox"/>
<input type="checkbox"/>	Integrating the environment in urban development: Singapore as a model of good practice	Josef Leitmann	<a href="#">\\Library\locgov\$\00161.pdf</a>	<input type="checkbox"/>
<input type="checkbox"/>	Human rights, environment and development: With special emphasis on Corporate accountability	Ayesha Dias	<a href="#">\\Library\locgov\$\00195.pdf</a>	<input type="checkbox"/>
<input type="checkbox"/>	Amendments on Environment (Protection) Rules, 1986		<a href="#">\\Library\locgov\$\00282.pdf</a>	<input type="checkbox"/>
<input type="checkbox"/>	Environment Profile of Kerala		<a href="#">\\Library\locgov\$\00297.pdf</a>	<input type="checkbox"/>
<input type="checkbox"/>	Report of the working group on water resources and			<input type="checkbox"/>

If you click on the link in the field *Fulltext* provided above, the appropriate document would be get opened automatically.

### *2.5 Uploading Winisis database to internet site*

Genisisweb will allow us to put the Winisis database in the website easily. The manual 'Web interface for CDS/ISIS' Genisisweb version 3.0.0' by Deepika Talagala mentioned above provides easy to do methods for uploading a Winisis database in internet.

### **3 Digital library collection development with *Greenstone***

*Greenstone Digital Library Software* is an emerging popular suite of software for building and distributing digital library collections. It provides a new way of organising information and publishing it on internet or on CD-ROM. Greenstone is produced by *New Zeland Digital Library Project* at the *University of Waikato* in cooperation with UNESCO. The software and manuals are available from <http://greenstone.org> and is an open licensed software.

The beauty of the Greenstone digital library is that the full text of the entire collection of documents is searchable by any word in the text of any of the documents.

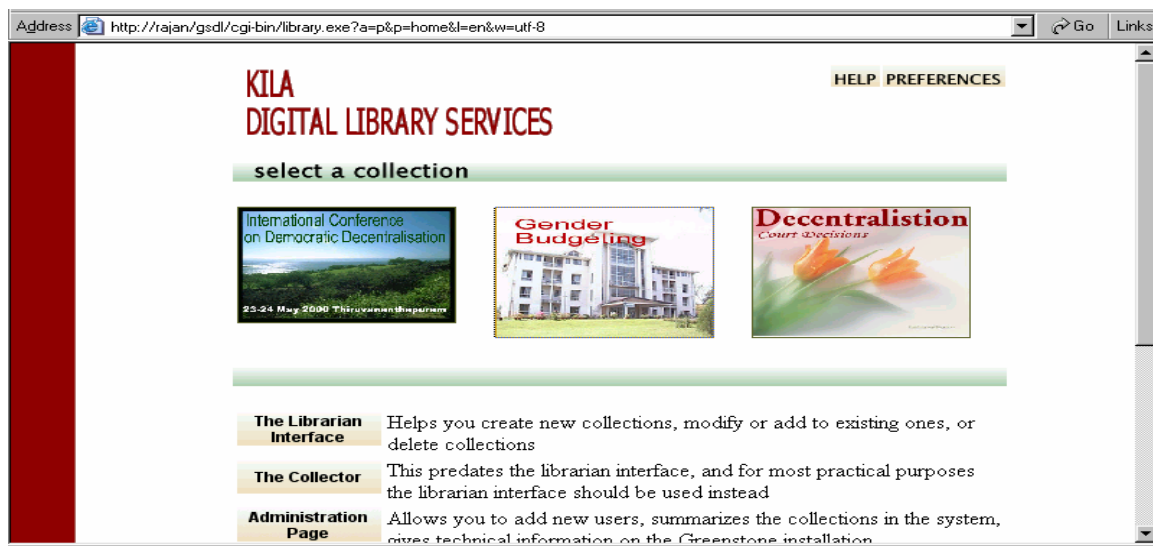
The steps in digital library development are:-

- Select the document for digital library
- Scan and OCR the hard copy documents and collect other digital documents
- Convert all digital documents to a format, which can be imported into Greenstone. (Html, Word, Pdf etc)
- Tagging the document for display of chapters, paragraphs and images of the digital documents.
- Organise the collection into an optimally structured digital library.
- Build the digital library using the Greenstone software.
- Print and distribute the collection on CD ROM/Internet.

If you have flare for learning computer applications and have an inclination to spend some time, you can produce excellent results using Greenstone. Greenstone is useful for creating archives of documents in Internet also

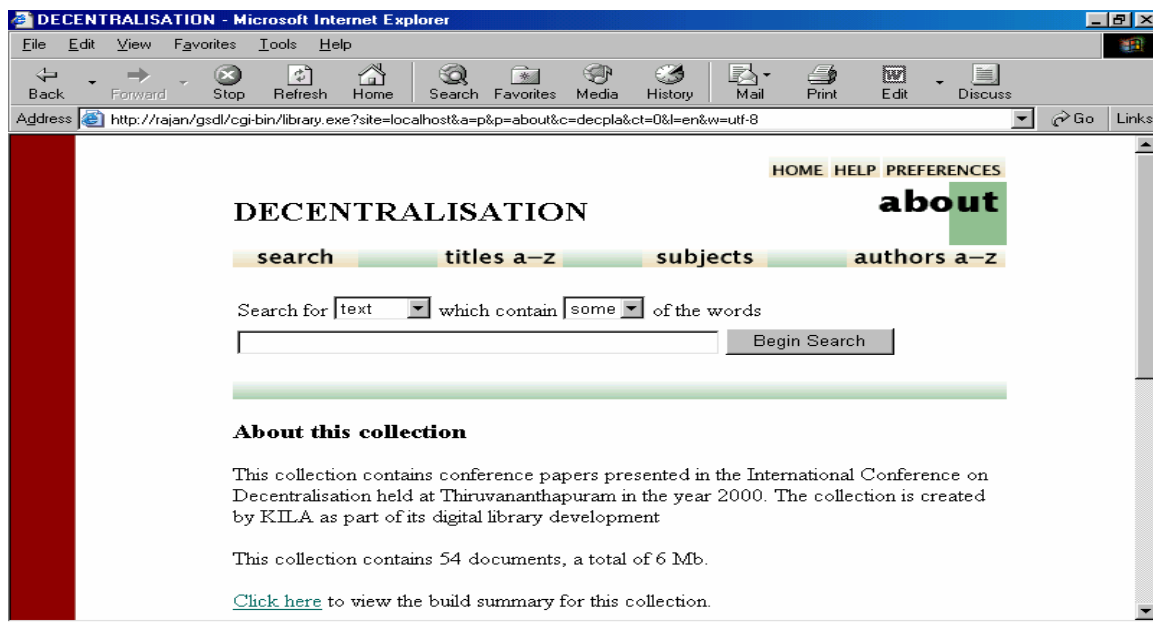
Homepage of a customized Greenstone DigitalLibrary collection, created in KILA library is given in Figure 9.

**Figure 9 Homepage of Greenstone Digital Library in KILA**



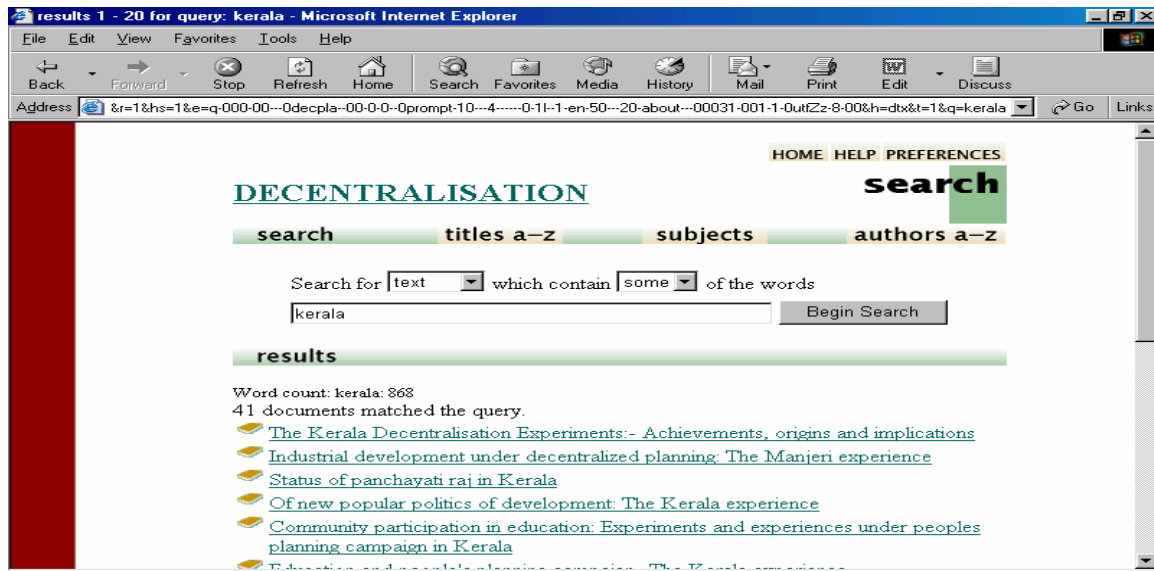
If you click on any of the picture icon of the above three collections, it will take you to the homepage of that collection and the homepage will be as it appears in Figure 10.

**Figure 10 Greenstone About this page**



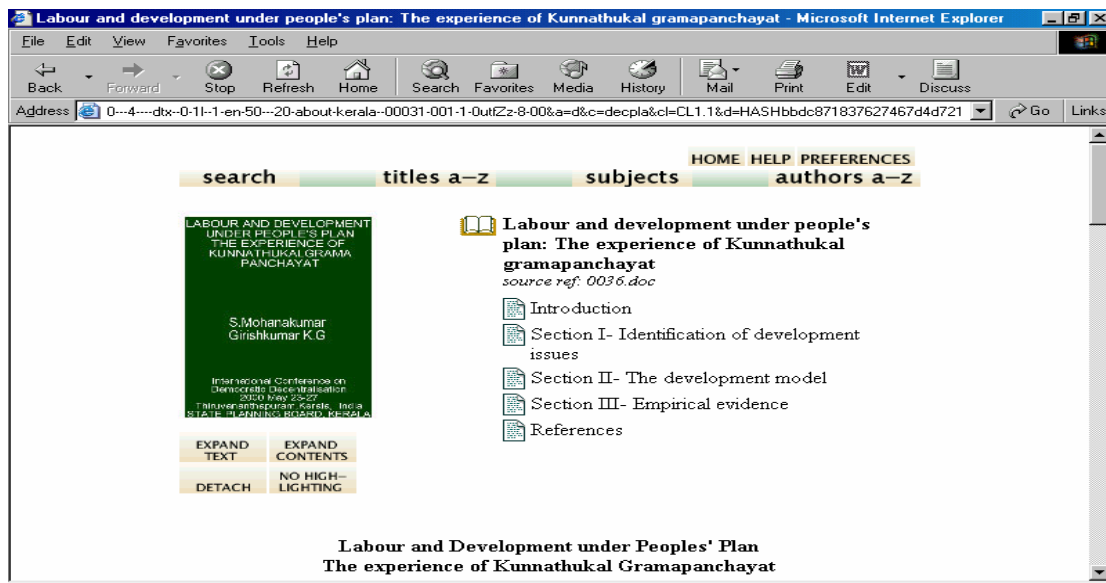
A search result of query on a collection appears as visible in Figure11.

Figure 11 Greenstone search result page



An opening page of a document in the collection would appear as in Figure 12.

Figure 12 Title page of a document in a Greenstone Collection



### 3.1 Converting printed documents into digital documents

The first step in converting a paper document into a digital document is scanning the document in order to convert it into a high quality image, at a resolution of 300 dpi. The next step is optical character recognition using a OCR software in order to make the image into an editable text.

Scanners are available from 5000 to 25 lakhs. Flat bed units are low-cost. Scanners with sheet feeders are available from Rs.25, 000 onwards. Some scanners can digitize 2000 to 10,000 pages per day.

Good OCR programmes are Read-Iris, Omnipage and Fine Reader. *Fine Reader* is the cheapest, flexible and user-friendly software. It costs around Rs.10, 000/-.

Digital documents can be further refined, formatted and developed into a Greenstone collection automatically by Greenstone Digital Library software.

### 3.2 Creating Digital Library using Geenstone: How it works

Creating a digital collection of documents using Greenstone Digital Library is easy and simple. Click on the collector button in the homepage of the Greenstone software and you will get the screen in Figure13.

**Figure 13 Signing-in page of Greenstone**

The Collector helps you to create new collections, modify or add to existing ones, or delete collections. To do this you will be guided through a sequence of Web pages which request the information that is needed.

First, you must decide whether to

- ☒ create a new collection
- ☐ work with an existing one, adding data to it or deleting it.

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In order to build or modify digital library collections you must sign in. This is to protect you from others logging in to your computer and altering the information on it. Note: for security reasons you will be automatically logged out once a 30 minute period has elapsed since you logged in. If this happens, don't worry! -- you will be invited to log in again and can continue from where you left off.

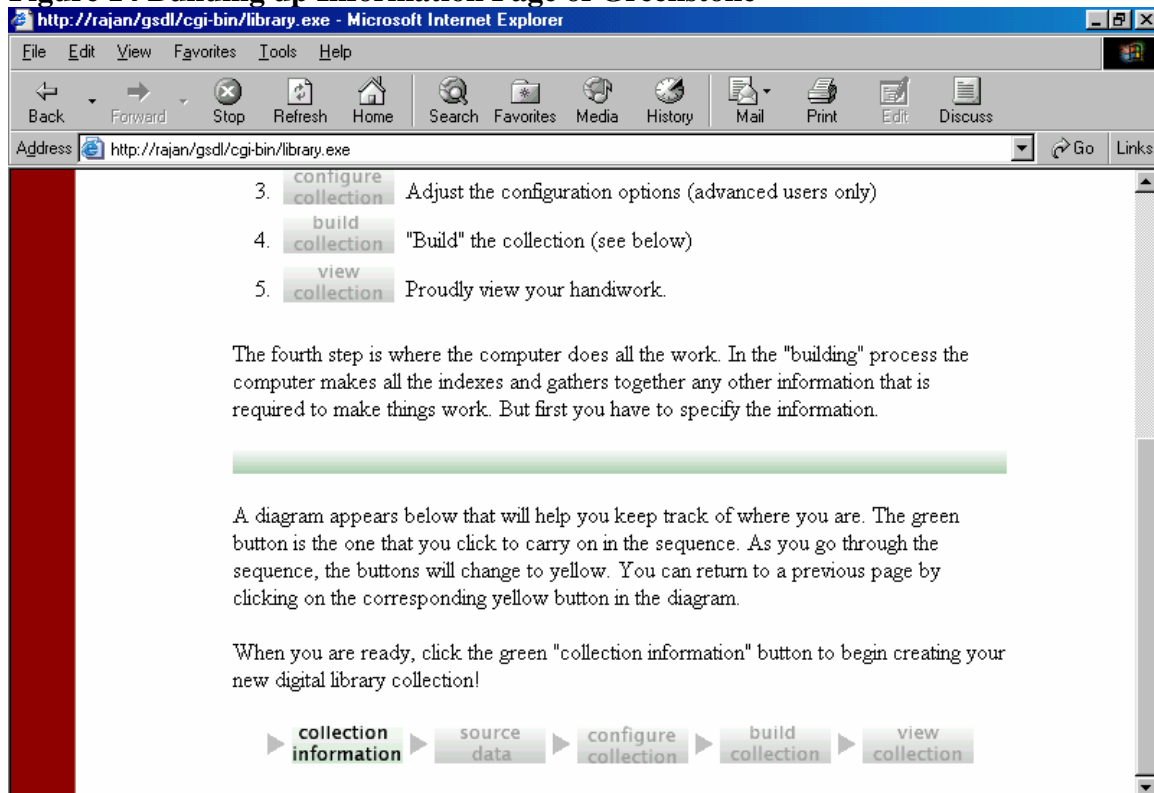
Please enter your Greenstone username and password, and click the button to sign in.

username

password

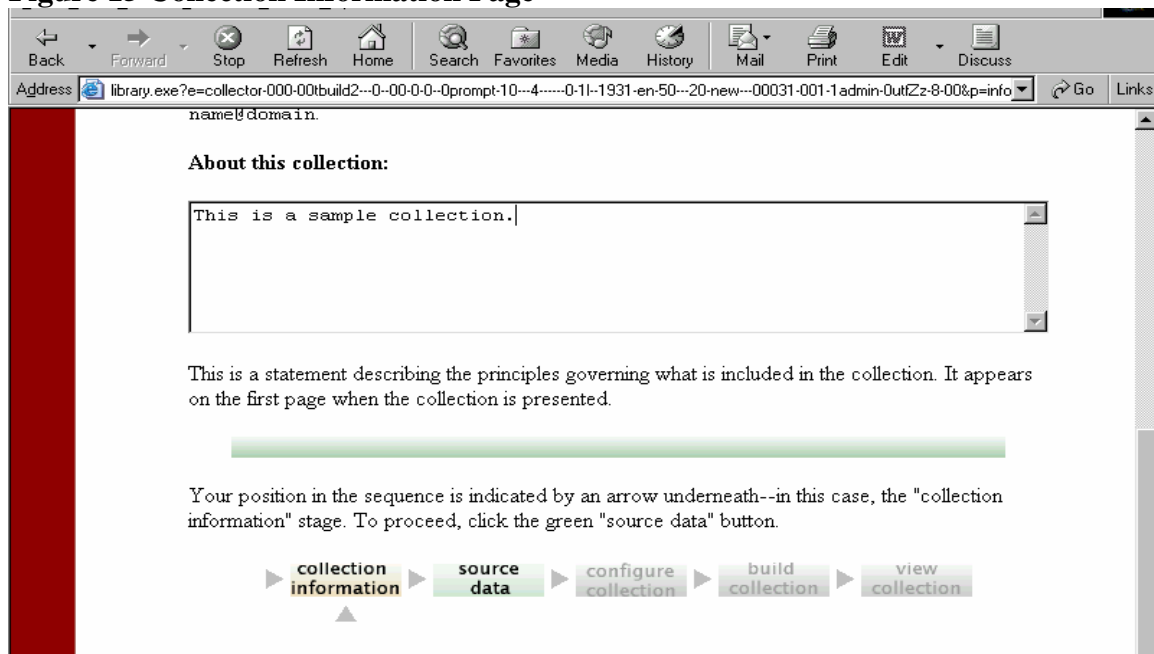
Then provide username and password and click the sign in button in Figure13. Then you will be lead to a page that provides various stages in the process of building up a digital collection as in Figure14.

**Figure 14 Building up Information Page of Greenstone**



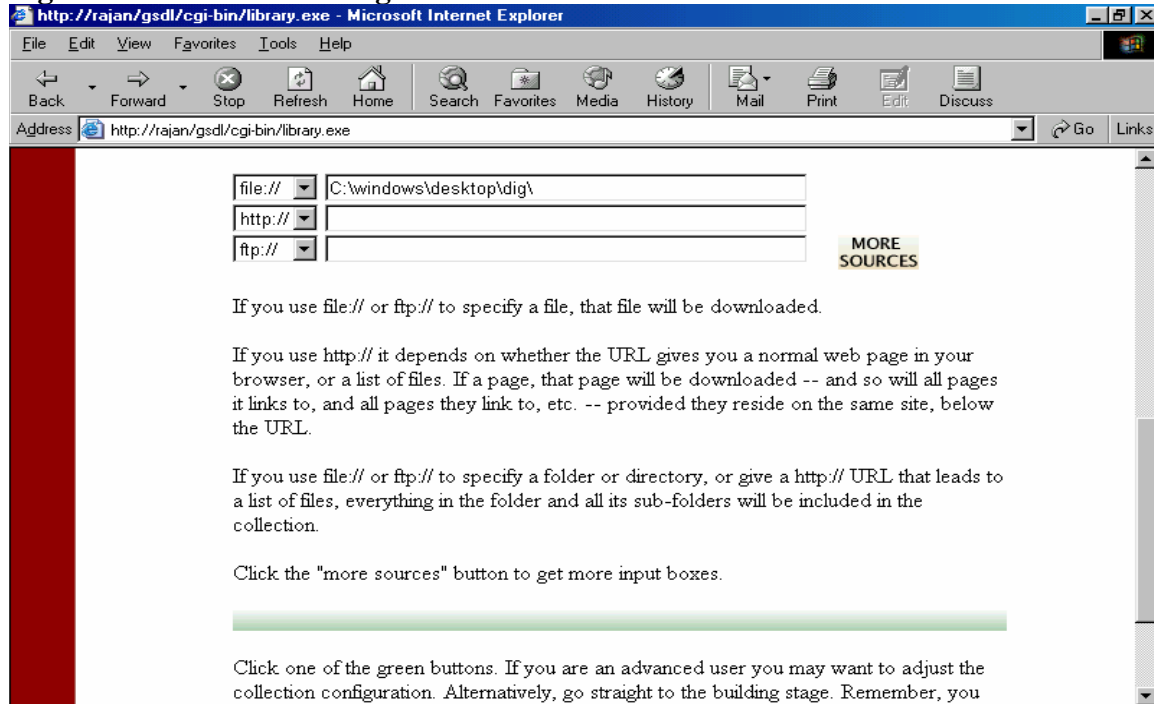
Click on the collection button and you will get the following screen where you need to provide details of the new collection. See the print screen in Figure 15.

**Figure 15 Collection Information Page**



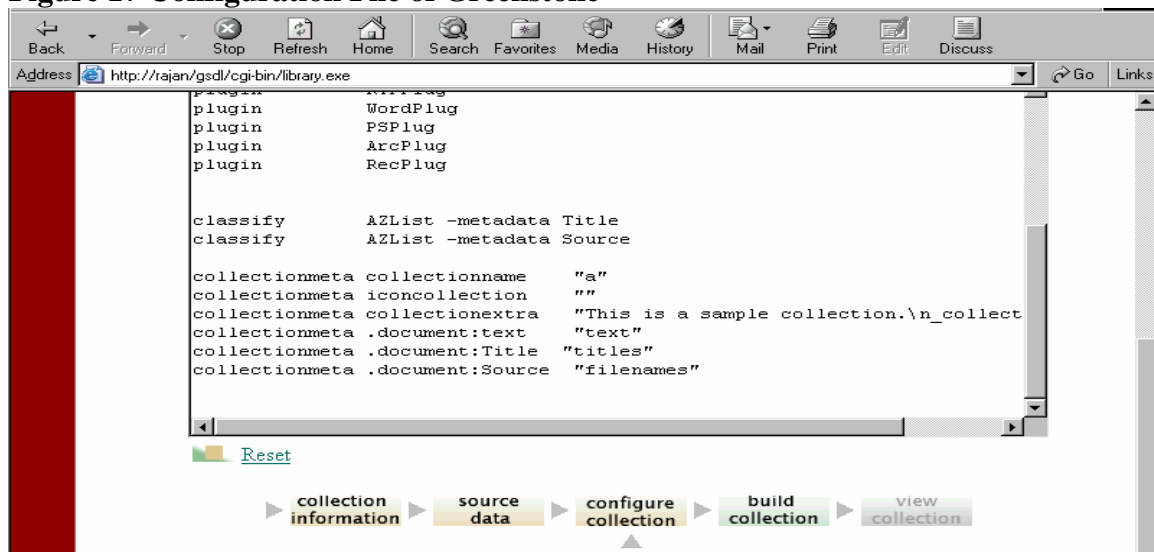
Then click on source data and provide the exact path of the source file that you need to build into a digital library. You need to provide source folder or file in the appropriate window as in Figure16.

**Figure 16 Source Data Page**



Then click *configure collection* to get the screen in Figure 17 where you can make changes in the configuration file to get a customized appearance.

**Figure 17 Configuration File of Greenstone**



The above configuration file will determine the appearance of the collection and only advanced users are expected to alter the configuration file. If you are not an advanced user, just click *build collection* button and you will get a built up collection after few minutes or hours depending on the number of documents in the input folder.

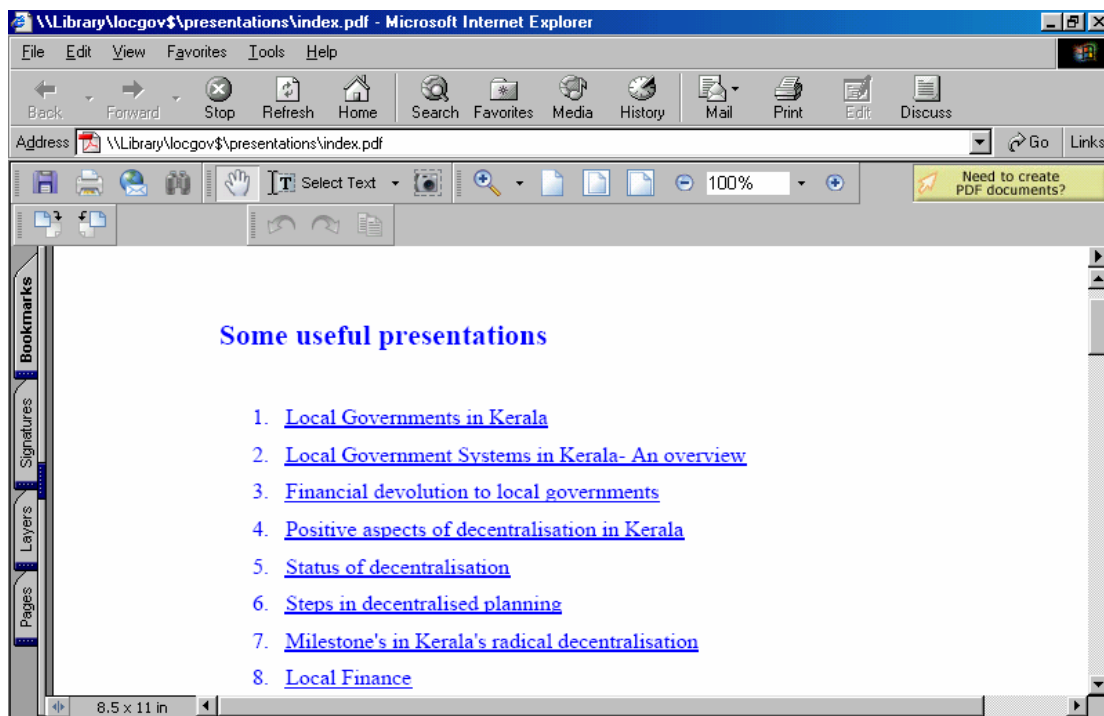
## 4 Other methods for digital information management in KILA

### 4.1 Collection of power point presentations

Library can keep a collection of power point presentation if power point presentations are being used for presentation purposes in the institution. Any presenter can customize the presentations suitably and create his presentation. This will help the presenter to produce qualitatively better presentation with the basic input from earlier presentation.

Screen-shot of the presentation bank maintained in KILA is provided in Figure 18.

**Figure 18 Home-Page of PowerPoint Presentations**



### 4.2 Collection of digital audio/video files

Audio and video files in digital form can also be collected in a folder, create a database of it and make available through the network either by using Winisis / Genisisweb.

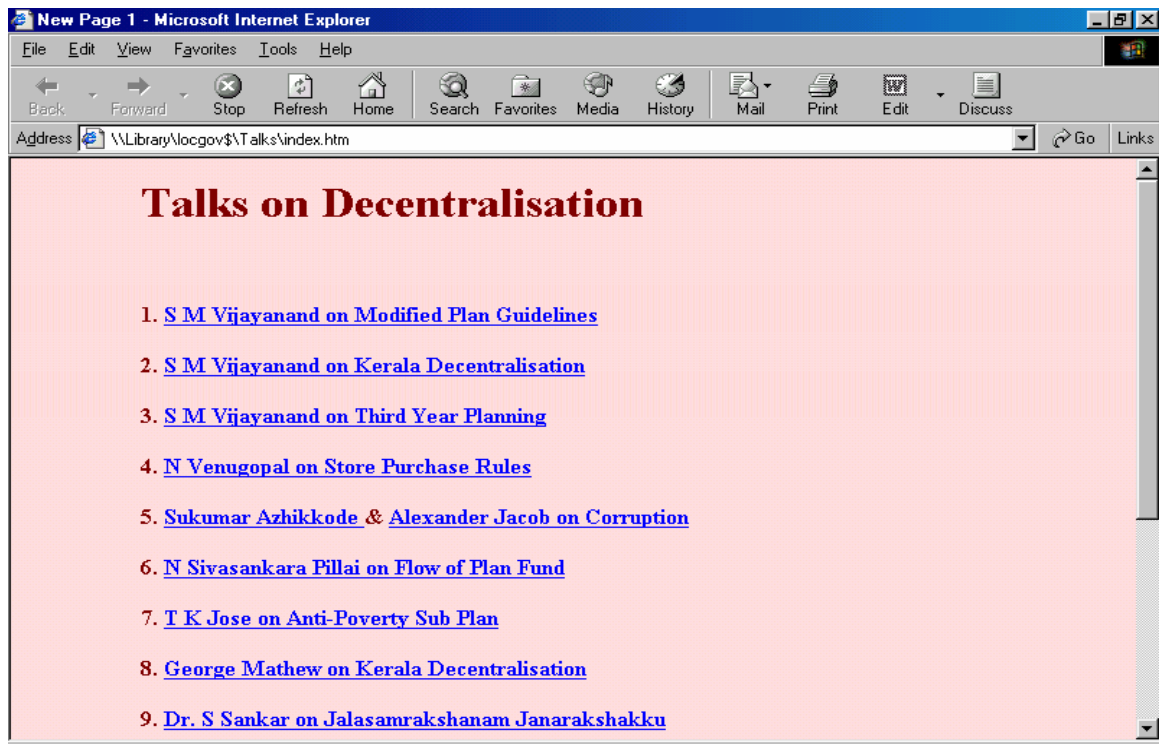
You can then make a search for the video file by any keyword, get the hyperlink and open the needed file in the new window in the media player. If the collection is talks in



audio format either in mp3 or other formats, the talks will be played in winamp or media player if you click on the link relating to it. The advantage of such collection management is that it allows search by keywords / name of the songs.

Alternatively, Audio documents can be made accessible to the users over the network by creating an html page and linking all the files to that html page as in Figure19.

**Figure 19 CD-ROM of Talks on Decentralisation**

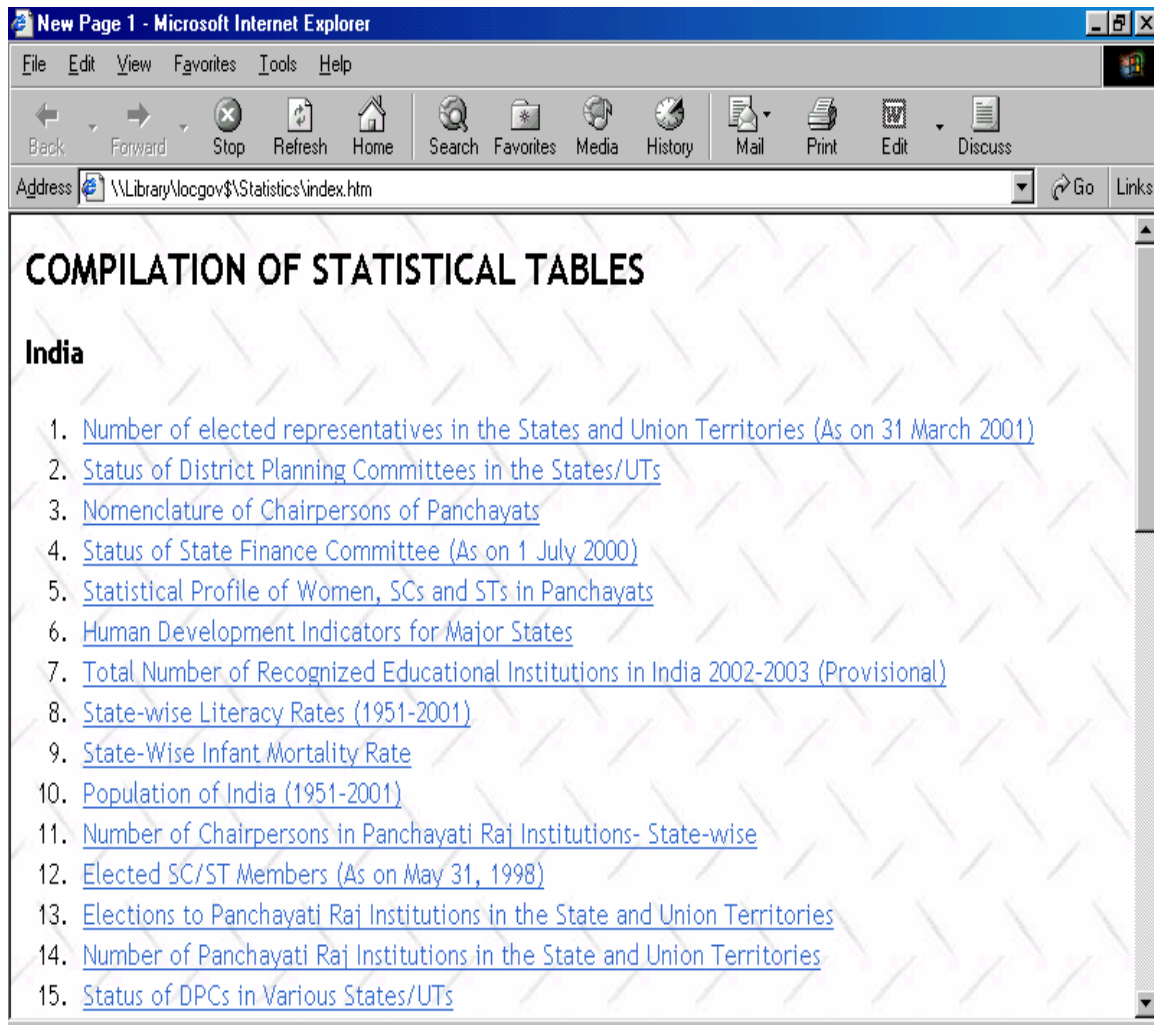


When the user clicks on any link, appropriate audio documents will start playing using media player / Winamp.

#### **4.3 Compilation of statistical tables in one place**

Some commonly used statistical tables on decentralization are also provided as a linked page among our digital collection as given in Figure20.

**Figure 20 Homepage of Statistical Tables**



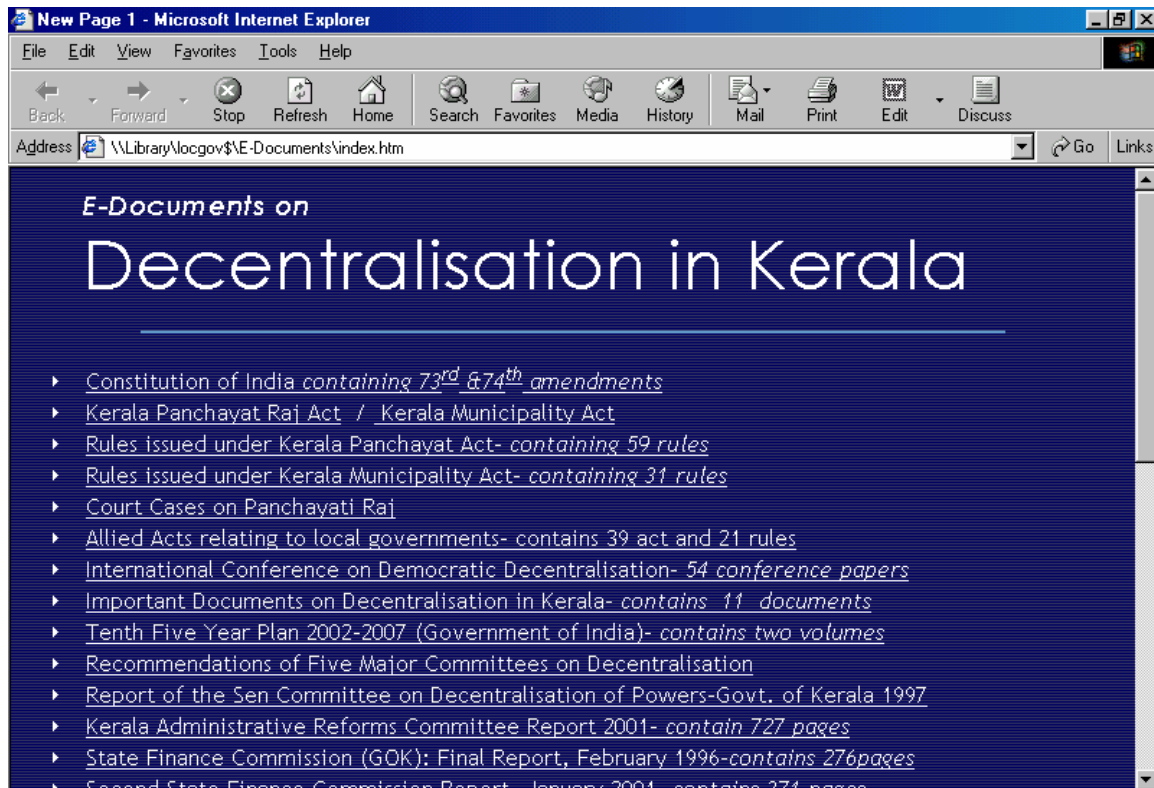
#### **4.4 CD-ROM on Decentralisation in Kerala**

Libraries can collect, organize and create CD-ROM of most frequently used, freely copy able documents for dissemination to the users using web-creation technologies and that would be the easiest means to distribute documents in digital form to users in a library.

Libraries should consolidate, create and distribute digital documents collections to users as they loan out books, in a no-profit no-loss basis in this era of digital technologies. Such digital document collection can be put in the World Wide Web for wider use also.

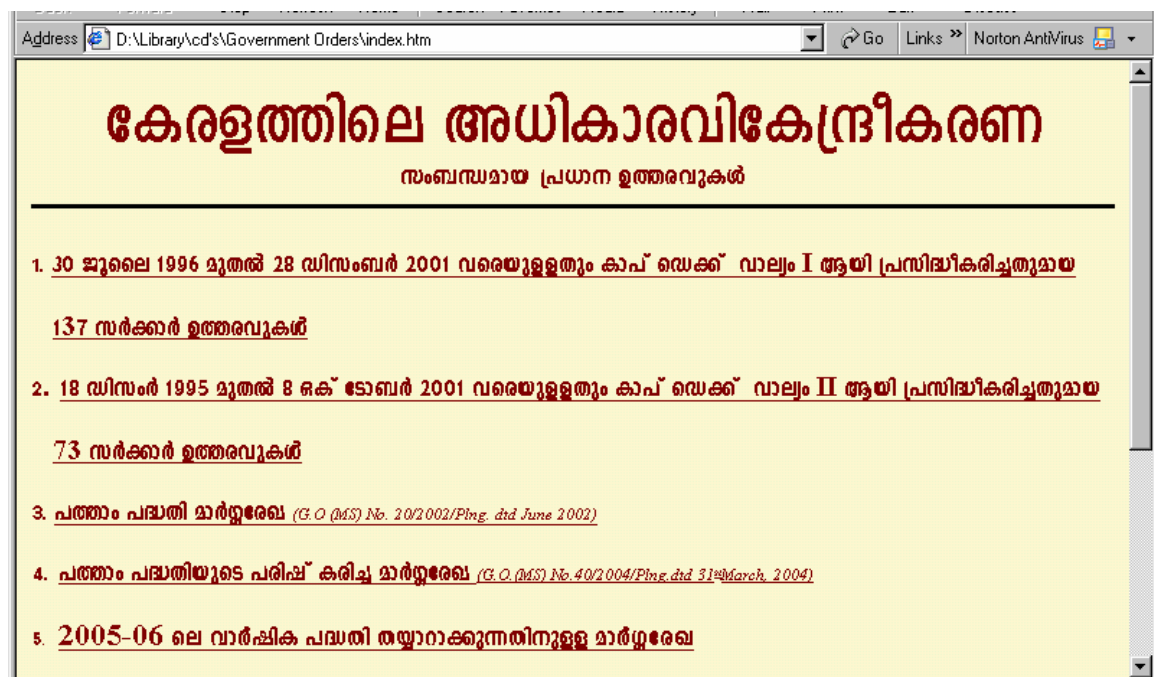
A Sample CD-ROM created by KILA library on Decentralisation is there in Figure 21.

**Figure 21 Homepage of CD-ROM on Decentralisation**



Another sample cd-rom created by KILA library is a **CD-ROM of Government Orders on Decentralisation**, the homepage of which is given in Figure 22.

**Figure 22 Homepage of CD-ROM on Government Orders**



The above cd-rom contains around 350 government orders issued in the course of decentralisation campaign in Kerala.

#### **4.5 How can all digital collections made accessible through a single point**

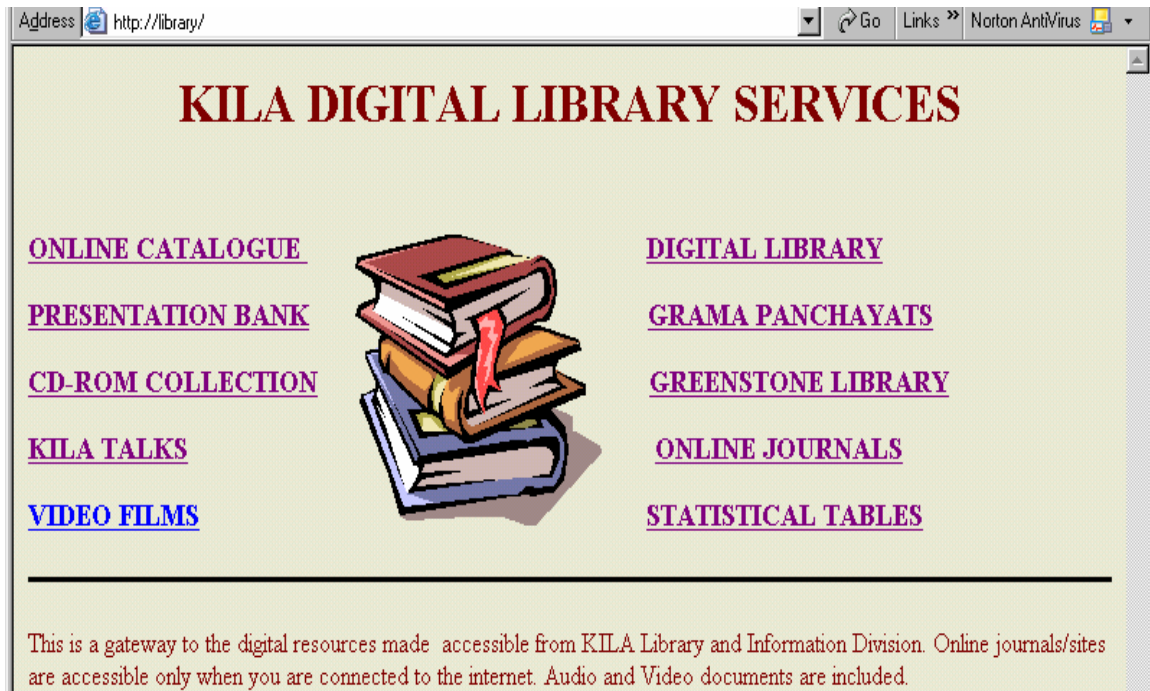
Library can make all these collections accessible to users through a single home page, in your local area network.

To do that, create a homepage, link all other digital collection to the appropriate names in the homepage, install *Apache* server programme in the computer node where the programme resides, share all the folders and save the homepage as *index.html* in the *htdocs* folder under the *Apache server* in the computer. If anybody types the address <http://computer-name/index.html> or even the computer name (say *library*) in the address box of internet explorer from any other node in the network, the homepage *index.html* will appear in the client node and he can go to any digital collection linked to it.

For making all the documents in the collection accessible to the users at the remote node in the local area network, the folder containing all the documents should be shared and all collections should be linked together. The shared folders can be kept invisible to others in the network, if the name of the folder end with a \$ sign.

The homepage that makes all digital collections in KILA library accessible to users in the local area network is given in Figure 23.

**Figure 23 Home page KILA Library Intranet**



## **5 Some other useful details**

### **Weblis - a free software for acquisition and circulation**

Weblis is a free licenced library package available at UNESCO site. You can find it out by searching the web by the term weblis. Prof. Rybinski and his team have developed this package in Poland. Please, see the details of the software that is provided at <http://www.icie.com.pl> The software contains modules for acquisition and circulation and is useful for libraries, which cannot afford to spend money for software.

### **Acknowledgement**

Ms K M Nafala, Computer Operator in KILA library has contributed significantly with computer knowledge in developing and managing the digital collections, based on which the paper has been prepared.

## References

1. The CDS/ISIS for windows: Handbook by Andrew Buxton & Alan Hopkinson. Paris, Unesco, 2001.

*This is an easy to learn manual, which will help anybody having computer literacy to learn the potentialities of the software. The software is available at [www.unesco.org/isis/files/winisis/windows/dos/english/en\\_handbook.zip](http://www.unesco.org/isis/files/winisis/windows/dos/english/en_handbook.zip)*

2. Web interface for CDS/ISIS: Genisis web version 3.0.0 by Deepika Talagala available at <http://thakshana.nsf.ac.lk/wwwisis/purna/form.htm>

*The manual provides not only all the steps in installing the Genisisweb, but also the screenshots appearing in the computer screens when the software is installed. The software and manual will help publishing Winisis database in the internet.*

3. Software, manuals and training materials on Greenstone Digital Library are obtainable from [www.greenstone.org](http://www.greenstone.org)

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